

Work Order ID 137151

137151

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Thursday, September 24, 2015 2:10:47 PM

Item ID: D5162-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Seat Structure Assembly
 Start Date: 9/23/15 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 9/23/15 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: MLJ Date: SEP 25 2015 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3016	(DEO) A1								
D3017	C								
D5162	A								
D5189	A								

105 Pick Kit 0.00

105

Packaging Memo 0.00
 Packaging

1 EL 15-10-27

110 Weld per dwg A/R 4130 rod Batch: M107725 0.00

110

Large Fab Memo 0.00
 Large Fab

1 EL 15-10-27

FABRICATE D5189-041 AS PER DWG AND BY USING DT8622.

DO NOT OPEN HOLES TO SIZE, IT WILL BE OPEN UPON FINAL ASSEMBLY.

ONLY WELD STUD D4667-041 TO TUBE. END CAP WILL BE WELDED AFTER OPENING HOLES IN TUBE.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

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Item ID: D5162-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
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Start Date: 9/23/15 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 9/23/15 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Weld per dwg A/R 4130 rod Batch: <u>M127925</u>	0.00							
120									
Large Fab	Memo	0.00							
Large Fab	FABRICATE (2) D3016-041 AS PER DWG.								
	WELD ASSEMBLY USING DT8597 WELD JIG.								
	DO NOT DRILL HOLES AS THEY WILL BE TRANSFER DRILL AT FUTHER STEP.								
	DO NOT WELD GUSSETS AND BRACKET THEY WILL BE WELDED AT A FUTHER STEP.								

1 EL 15-10-27

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : ☐							

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 Start Date: 9/23/15 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 9/23/15 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Weld per dwg A/R 4130 rod Batch: <u>1127925</u>	0.00							
130									
Large Fab	Memo	0.00							
Large Fab	FABRICATE D3017-041 AS PER DWG:								
	USE DT8598 FOR BENDING D3017-1/-3 TUBE.								
	USE DT8621 FOR DRILLING (#30 DRILL) BACK FRAME. ***DO NOT OPEN HOLES IT WILL BE DONE AT FUTHER STEP***								
	USE DT8622 FOR DRILLING (#30 DRILL) D3017-5. ***DO NOT OPEN HOLES IT WILL BE DONE AT FUTHER STEP***								
	USE DT8598 JIG FOR WELDING TUBES, LUGS AND ONE END CAP, OTHER END CAP WILL BE WELDED AFTER OPENING HOLES.								
140	QC5- Inspect part completeness to step on W/O	0.00							
140									
QC	Memo	0.00							
Quality Control									

1 15-10-25

① 15-10-27

DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified ☐	☐	Past Due	☐				

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Item ID: D5162-041 Accept ***N900040100*** Setup Start ***NS1***
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Item Name: Seat Structure Assembly
Start Date: 9/23/15 Start Qty: 2.00 *?
Required Date: 9/23/15 Req'd Qty: 2.00 *?
Cust Item ID:
Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150

150

Large Fab

Large Fab

Memo

0.00

1- BOLT SEAT FRAME TO ASSEMBLY PLATE DT8624.

2- TRANSFER DRILL D5189-041 TO D3016-041 AS PER DWG USING #30
DRILL AND CLECO THEN DRILL TO FINISH SIZE.

3- TRANSFER DRILL SEAT PAN TO D5189-041 AND 3016-041.

4- TRASFER DRILL SEAT AND D3016-041 TO D3017-041 USING
DT _____ AND USING TOOL TO ACHIEVE DESIRED ANGLE ON
BACK REST.1 EL 1510-25

155

155

Large Fab

Large Fab

Weld per dwg A/R 4130 rod Batch: M117925 0.00**Memo**

0.00

ARMREST:1- ASSEMBLE AND TRANSFER DRILL D5189-043 TO D3017-041.
OPEN HOLES TO FINISH SIZE AS PER DWG**STRUT:**

1-

SEAT BRACE:1- USE DT10132 AND DT10133 TO TRANSFER DRILL HOLES IN SEAT
PAN AND SEAT BRACE.1 EL 1510-25

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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Item ID: D5162-041 Accept ***N900040100*** Setup Start ***NS1***
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 Start Date: 9/23/15 Start Qty: 2.00 ***2*** Cust Item ID:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
175	QC5- Inspect part completeness to step on W/O	0.00							
175									
QC	Memo	0.00							
Quality Control									
180	Chemical Conversion Coat per QSI005 4.1	0.00							
180									
HandFinish	Memo	0.00							
Hand Finishing	CHEMICAL CONVERSION SEAT PANEL D3022-1 AND BACK PANEL D3023-1 AS PER DWG								
190	QC7-Inspect Chemical Conversion Coat	0.00							
190									
QC	Memo	0.00							
Quality Control									

① 15-10-27 AD

IX 15/10/27 DAS 36 9-89

DAS 30 9-89 1 10/10/27

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200 *200* Small Fab	Memo (TO FABRICATE D5162-051) ASSEMBLE D3023-1 PANEL TO D3017-041 BACK FRAME AS PER DWG D5162-051	0.00				<u>1X</u>			<u>15/10/27</u> DAS 36 9-29
210 *210* QC	QC5- Inspect part completeness to step on W/O	0.00				<u>①</u>			<u>①</u> DAS 38 9-29
220 *220* Powdercoat	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3 <u>M130746.</u>	0.00				<u>①</u>	<u>φ</u>	<u>15-10-27.</u>	<u>①</u> DAS 34 9-29
Powder Coating	Memo POWDER COAT ALL INDIVIDUAL PARTS START TIME: <u>2:35.</u> OVEN TEMPERATURE: <u>320°</u> FINISH TIME: <u>3:05.</u>	0.00							

OCT 27 2015

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐		☐	Pressure/Forced	☐	Temperature/Cure
Design ☐	☐	Operator ☐		☐	Bending	☐	Set-up
Doc/Data ☐	☐	Offset/Setup ☐		☐	Centre Not Concentric	☐	BOM/Route
Equip/Tooling ☐	☐	Supplier ☐		☐	Cracks	☐	Broken/Damage/Defect
Handling/Pre ☐	☐	Training ☐		☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified
Material ☐	☐	Use for Testing ☐		☐	Cuffs	☐	Contamination
Internal Transport ☐	☐	Poor Information ☐		☐	Crushing	☐	Countersink
Tribal Knowledge ☐	☐	Rushing ☐		☐	Heat Treat	☐	Cut Too Short
LOA ☐	☐	Product Improvement ☐		☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear
Substation ☐	☐	Process Improvement ☐		☐	Marks/Chatter	☐	Drill Holes
Past Expiry Date ☐	☐	Manufacturing Process ☐		OTHER :			
Misidentified ☐	☐	Past Due ☐					

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	QC3- Inspect Part Finish	0.00							
230									
QC	Memo	0.00				<u>1X</u>			<u>15/10/28</u>
Quality Control									
240		0.00							
240									
Small Fab	Memo	0.00				<u>1X</u>			<u>15/10/28</u>
Small Fab	ASSEMBLE AS PER DWG								
250	QC5- Inspect part completeness to step on W/O	0.00							
250									
QC	Memo	0.00				<u>1</u>			<u>OCT 28 2015</u>
Quality Control									

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 137151

137151

Page 9

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Item ID: D5162-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Seat Structure Assembly
 Start Date: 9/23/15 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 9/23/15 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
260	Identify as per dwg & Stock Location: GA	0.00							
260					DAS				OCT 28 2015
Packaging	Memo	0.00			30	1			
Packaging					9-89				
270	QC21- Final Inspection - Work Order Release	0.00							
270									
QC	Memo	0.00							
Quality Control									

SA 20151028

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

Picklist Print

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Page 1

Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 14.11.05 NEW ISSUE DD VERF:JLM IPP
REV:B 15-02-06 AS PER DWG REV.A DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D5190-1		Manufactured	No			110	Each	6.0000	1	2			
D5190-1 ** EL 15-10-27 Armrest Fitting													

Location	Loc Qty	Loc Code
WA002	6	
131642	5	
131921	1	

D5190-3		Manufactured	No			110	Each	16.0000	1	2			
D5190-3 ** EL 15-10-27 Weld Pin													

Location	Loc Qty	Loc Code
WA001	15	
<u>134241</u>	15	
WA002	1	
129486	1	

M4130NT0.750W.049		Purchased	No			105	f	74.2500	15.5	32.63158			
M4130NT0 750W 049 ** EL 15-10-27 4130 RD Tube .750 x.049W													

Location	Loc Qty	Loc Code
MAT	20	
m133083	20	
MAT033	54.25	
m122425	22.5	
m131541	28.15	
m132886	3.6	

133367 x 18.41

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Thursday, September 24, 2015 2:10:46 PM

Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

D4667-041 Manufactured No

110 Each 8.0000 1 2

D4667-041

Armrest Stud Assembly

**

EL 15-10-27

Location

Loc Qty

Loc Code

WA002

8

134537

8

M4130NT0.500W.049

Purchased

No

105 f 332.1810 4.33

9.11579

M4130NT0 500W 049

4130 RD Tube .500 x.049W

**

EL 15-10-27

Location

Loc Qty

Loc Code

MAT032

332.181

m124293

12.166

m127111

20.383

m128713

21

m129826

182.566

m130551

96.066

M4130NT1.000W.120

Purchased

No

105 f 37.4000 1.2 2.526316

M4130NT1 000W 120

4130 RD Tube 1.00 x .120wall

**

EL 15-10-27

Location

Loc Qty

Loc Code

MAT033

37.4

m131146

37.4

D3020-1

Manufactured

No

120 Each 9.0000 4 8

D3020-1

Fitting

**

EL 15-10-27

Location

Loc Qty

Loc Code

WA002

9

127508

3

134417

6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified	☐	Past Due	☐				

Picklist Print

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Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

D3017-7 Manufactured No 130 Each 7.0000 3 6

D3017-7

Lug

**

CL 15/10-26

Location Loc Qty Loc Code

WA002

7

134470

7

3

D3023-1

Manufactured No

130 Each 2.0000 1 2

D3023-1

Back Panel

**

CL 15/10-26

Location Loc Qty Loc Code

WA001

2

134279

1

135360

1

1

D3017-11

Manufactured No

130 Each 32.0000 1 2

D3017-11

Cap

**

Location Loc Qty Loc Code

WA001

32

134300

32

M4130NT0.750W.083

Purchased No

105 f 36.0205 2.5 5.263158

M4130NT0 750W 083

4130 RD Tube .750 x.083W

**

CL 15/10-27

Location Loc Qty Loc Code

MAT032

36.0205

m131146

36.0205

2.5

133

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

Picklist Print

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Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

D3022-1

Manufactured No

150

Each

3.0000

1

2

D3022-1

Seat Pan

Q 15-10-27

Location

Loc Qty

Loc Code

WA001

3

125401

1

134961

1

135602

1

D3016-15

Manufactured No

165

Each

28.0000

2

4

D3016-15

Gusset

Q 15-10-27

Location

Loc Qty

Loc Code

WA002

28

112203

8

119895

20

D3016-13

Manufactured No

165

Each

12.0000

2

4

D3016-13

Bracket

Q 15-10-27

Location

Loc Qty

Loc Code

WA002

12

110111

4

134893

8

D3016-17

Manufactured No

165

Each

10.0000

2

4

D3016-17

Gusset

Q 15-10-27

Location

Loc Qty

Loc Code

WA001

10

128213

10

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Shop Packet Print

Page 4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Picklist Print

Thursday, September 24, 2015 2:10:46 PM

Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

D3017-11 Manufactured No

165 Each 32.0000 2 4

D3017-11

Cap

**

EL 15-10-27

Location

Loc Qty

Loc Code

WA001

32

134 300

32

MS20600-AD4W2

Purchased No

200 Each

581.0000

-46

92

40

**

15/10/27

DAS 36 9-89

MS20600-AD4W2

Rivet

Location

Loc Qty

Loc Code

CCK005

581

m126475

581

AN4-6A

Purchased No

240 Each

259.0000

1

**

40

133316

SL

AN4-6A

BOLT

Location

Loc Qty

Loc Code

CA

143

M128403

43

M130851

100

ST345

116

M128403

8

M131153

108

NAS43DD4-16FC

Purchased No

240 Each

19.0000

2

**

42

SL

NAS43DD4-16FC

Spacer

Location

Loc Qty

Loc Code

ST262

19

m130835

19

2

DAS 22 9-89 15.10.29

*

MS20600-AD4W3

6X

M129795

15/10/27

DAS 36 9-89

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Shop Packet Print

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																								
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Root Cause		FAULT CATEGORY																																																													
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
OTHER : _____																																																															

Picklist Print

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Thursday, September 24, 2015 2:10:46 PM

Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

AN4-4A

Purchased

No

240

Each

310.0000

1

**

AN4-4A

BOLT

Location

Loc Qty

Loc Code

FP001

20

m125709

20

ST325A

290

m129390

290

D5159-043

Manufactured

No

240

Each

1.0000

1

**

D5159-043

Seat Back Brace Assembly

Location

Loc Qty

Loc Code

ST506

1

134930

1

MS27039-4-20

Purchased

No

240

Each

82.0000

4

**

MS27039-4-20

Screw

Location

Loc Qty

Loc Code

ST283

82

m132551

82

MS20600-AD4W4

Purchased

No

240

Each

872.0000

4

**

MS20600-AD4W4

Rivets

Location

Loc Qty

Loc Code

ST308

346

M132640

346

WA003

526

M132256

526

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

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Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

MS27039-1-19

Purchased

No

240

Each

239.0000

4

**

MS27039-1-19

Screw

Location

Loc Qty

Loc Code

GA

32

m124326

32

ST273A

200

m133134

200

ST285

7

m127904

7

D3024-1

Manufactured

No

240

Each

11.0000

3

**

D3024-1

Spacer

Location

Loc Qty

Loc Code

ST015

11

134323

11

MS27039-1-17

Purchased

No

240

Each

250.0000

1

**

MS27039-1-17

Screw (601.1954)

Location

Loc Qty

Loc Code

GA

187

120142

37

m127831

150

ST285

63

m127305

60

m130388

3

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY																																																																																																																											
Environment	☐	Design	☐	Doc/Data	☐	Equip/Tooling	☐	Handling/Pre	☐	Material	☐	Internal Transport	☐	Tribal Knowledge	☐	LOA	☐	Substation	☐	Past Expiry Date	☐	Misidentified	☐	No Re-verification	☐	Operator	☐	Offset/Setup	☐	Supplier	☐	Training	☐	Use for Testing	☐	Poor Information	☐	Rushing	☐	Product Improvement	☐	Process Improvement	☐	Manufacturing Process	☐	Past Due	☐	Pressure/Forced	☐	Bending	☐	Centre Not Concentric	☐	Cracks	☐	Crimp/Kink/Ripple/Wave	☐	Cuffs	☐	Crushing	☐	Heat Treat	☐	Wave/Twist in Tube	☐	Marks/Chatter	☐	Temperature/Cure	☐	Set-up	☐	BOM/Route	☐	Broken/Damage/Defect	☐	Inspection Incomplete/Unqualified	☐	Contamination	☐	Countersink	☐	Cut Too Short	☐	Instructions Incomplete/Unclear	☐	Drill Holes	☐	Power Loss/Surge	☐	Folio/Program	☐	Grain	☐	Weld	☐	Wrong Stock Pulled	☐	Out of Sequence	☐	Off-set	☐	Mislabeled	☐	Fit/Function	☐	Misaligned/off center	☐	Positioned Wrong	☐	Outside Dimensions	☐	Over/Under tolerance	☐	Part Incorrect	☐	Part Lost/Missing	☐	Part Moved	☐	Drawing	☐	Finish	☐	Misread	☐	Turning Sequence	☐
																										OTHER :																																																																																																					

Picklist Print

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Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

MS24693-S49 *5272* Purchased

No

240

Each

200.0000

4

130799

sel

MS24693-S49

Screw

DAS
22
9-89

PARIS-416
15.10.27

Location

Loc Qty

Loc Code

ST293

200

m130835

200

240

Each

1,769.000

30

60-30

sel

NAS1149D0332J

Purchased

No

NAS1149D0332.J

Washer

Location

Loc Qty

Loc Code

CA

14

m129682

14

GA

430

m132677

430

ST269

1325

m130325

900

m132677

425

240

Each

866.0000

8

7/24
10-8

sw

MS20600-AD4W5

Purchased

No

MS20600-AD4W5

Blind Rivet

Location

Loc Qty

Loc Code

CCK005

200

m131618

200

ST308

395

m131340

11

m132769

384

WA004

271

m132640

271

8

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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

MS21042L3

Purchased

No

240

Each

1,000.000

17

34 17

MS21042L3

**

sep

Nut

Location	Loc Qty	Loc Code
FP001	334	
M130922	334	
GA	177	
M131317	177	
ST305	489	
116549	12	
126333	49	
M128754	2	
M132123	17	
M132382	2	
M132883	17	
M132930	1	
M133134	389	

NAS1149D0432J

Purchased

No

240

Each

629.0000

17

34 17

NAS1149D0432J

**

sp

WASHER

Location	Loc Qty	Loc Code
ST269	629	
m131026	629	

D5159-041

Manufactured

No

240

Each

1.0000

1

17 2

D5159-041

**

EL 15/10-21

Seat Back Brace Assembly

Location	Loc Qty	Loc Code
ST506	1	
134971	1	

137325x1

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause		FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Picklist Print

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Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

AN4-14A Purchased No

240 Each 264.0000 2

AN4-14A

Bolt

**

42

Suf

Location	Loc Qty	Loc Code
FG	5	
122141	5	
ST325A	200	
M132677	100	
M133011	100	
ST344	59	
M132640	59	

D3031-1 Manufactured No

240 Each 20.0000 2

D3031-1

Loop

**

42

OCT 28 2015

Location	Loc Qty	Loc Code
GA	20	
134318	20	

DAS
30
9-89

2

AN3-12A Purchased No

240 Each 140.0000 3

AN3-12A

Bolt

**

3

Suf

Location	Loc Qty	Loc Code
GA	18	
m129682	18	
ST338a	100	
m133234	100	
ST349	22	
m133064	22	

3

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐		☐	Temperature/Cure ☐	☐	Power Loss/Surge ☐
Design ☐	☐	Operator ☐		☐	Set-up ☐	☐	Folio/Program ☐
Doc/Data ☐	☐	Offset/Setup ☐		☐	BOM/Route ☐	☐	Grain ☐
Equip/Tooling ☐	☐	Supplier ☐		☐	Cracks ☐	☐	Weld ☐
Handling/Pre ☐	☐	Training ☐		☐	Crimp/Kink/Ripple/Wave ☐	☐	Wrong Stock Pulled ☐
Material ☐	☐	Use for Testing ☐		☐	Cuffs ☐	☐	Out of Sequence ☐
Internal Transport ☐	☐	Poor Information ☐		☐	Crushing ☐	☐	Off-set ☐
Tribal Knowledge ☐	☐	Rushing ☐		☐	Heat Treat ☐	☐	Mislabeled ☐
LOA ☐	☐	Product Improvement ☐		☐	Wave/Twist in Tube ☐	☐	Fit/Function ☐
Substation ☐	☐	Process Improvement ☐		☐	Marks/Chatter ☐	☐	Misaligned/off center ☐
Past Expiry Date ☐	☐	Manufacturing Process ☐		OTHER : ☐			
Misidentified ☐	☐	Past Due ☐					

Picklist Print

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Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

MS21042L4

Purchased

No

240

Each

1,647.000

8

168

MS21042L 4

Locknut

DAS
6
9-29

Location

Loc Qty

Loc Code

FP001

2

m124231

2

GA

112

m127813

112

ST260a

170

m130799

56

m131803

6

m132262

108

ST305

1363

m128300

8

m130388

7

m130922

97

m131618

12

m132123

56

m132382

1183

8

D2199-31

Manufactured

No

240

Each

3.0000

1

2

D2199-31

Strut Details

62 15-10-27

Location

Loc Qty

Loc Code

ST351

3

134335

1

135410

1

136138

1

137125x1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
				OTHER : ☐							

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Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

MS27039-1-20

Purchased

No

240

Each

208.0000

2

**

MS27039-1-20

Screw

Location

Loc Qty

Loc Code

ST284

208

124326

208

MS27039-4-21

Purchased

No

240

Each

64.0000

2

**

MS27039-4-21

Screw

Location

Loc Qty

Loc Code

ST283

50

m132803

50

ST284

14

m129909

14

MS27039-1-18

Purchased

No

240

Each

1,870.000

3

**

MS27039-1-18

Screw

Location

Loc Qty

Loc Code

GA

270

123522

70

124326

200

ST273A

1373

124326

1373

ST284

227

124326

227

D5159-045

Manufactured

No

240

Each

0.0000

1

**

D5159-045

Seat Rib Assembly

137318 x 1

2/15/10-27

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																		
Description Work Order Deviation				Disposition																					

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
				OTHER : ☐			

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Thursday, September 24, 2015 2:10:46 PM

Work Order ID: 137151

137151

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 2.00

Required Qty: 2.00

AN970-4

Purchased

No

240

Each

126.0000

1

AN970-4

Washer

Location

Loc Qty

Loc Code

ST325A

100

m133235

100

ST329

26

m129521

26

Thursday, September 24, 2015 2:10:46 PM

Shop Packet Print

Page 13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3016	REV. A SHEET 1 OF 3
DATE 01.05.18		TITLE SEAT FRAME ASSEMBLY	SCALE NTS
A	01.05.18	NEW ISSUE	

QTY	PART NUMBER	DESCRIPTION	MATERIAL
X	D3016-041	SEAT FRAME ASSEMBLY	N/A
1	D3016-1	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
2	D3016-3	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
1	D3016-5	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
2	D3016-7	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
1	D3016-9	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-11	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-13	BRACKET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-15	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-17	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
2	D3020-1	FITTING	N/A

NOTES

- 1) WELD PER DART QSI 004
- 2) ON SHEET METAL PARTS, BREAK ALL UNMARKED CORNERS 0.020-0.040
- 3) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

15-09-25
NO. 157151 MLS
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
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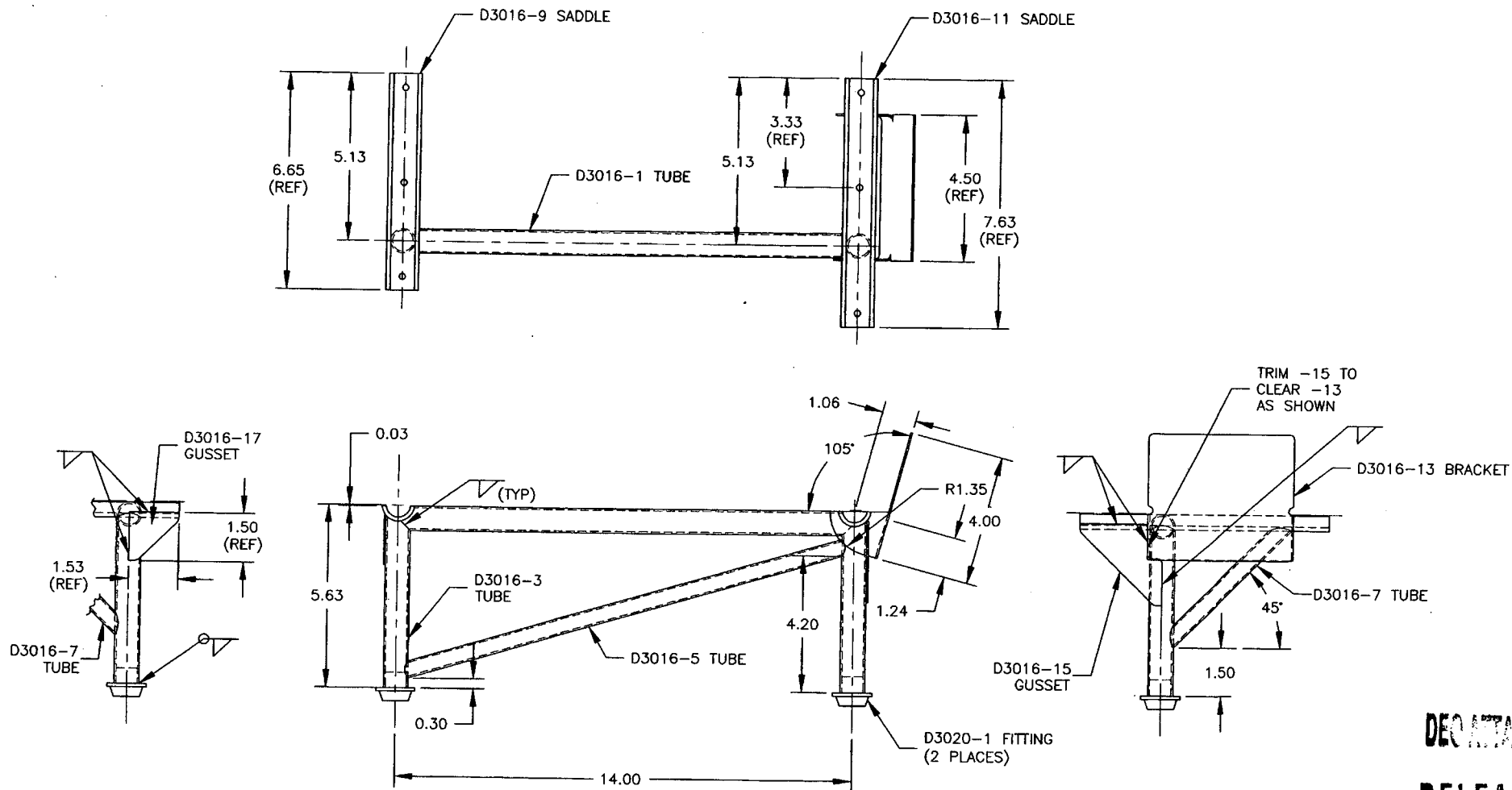
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01.05.30

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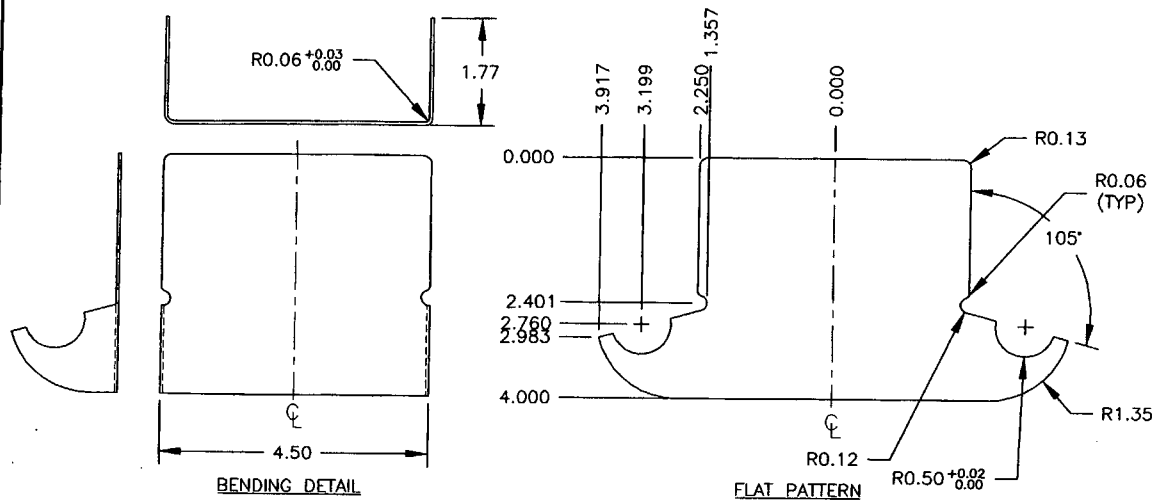
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D3016-041 SEAT FRAME ASSEMBLY



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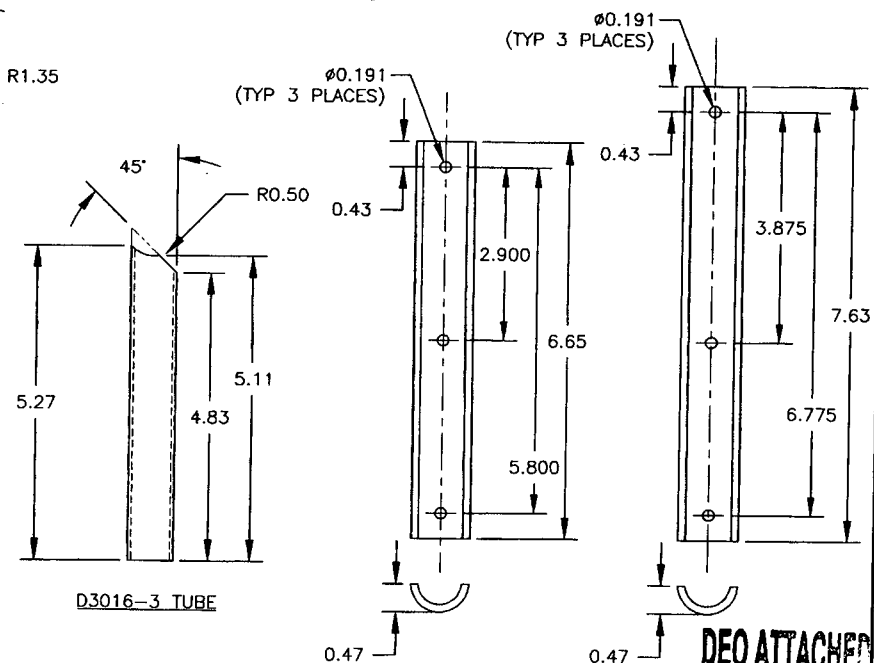
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DATE 01.05.18		DRAWING NO. D3016		REV. A SHEET 2 OF 3	
		TITLE SEAT FRAME ASSEMBLY		SCALE 1:3	



D3016-13 BRACKET

D3016-15 GUSSET

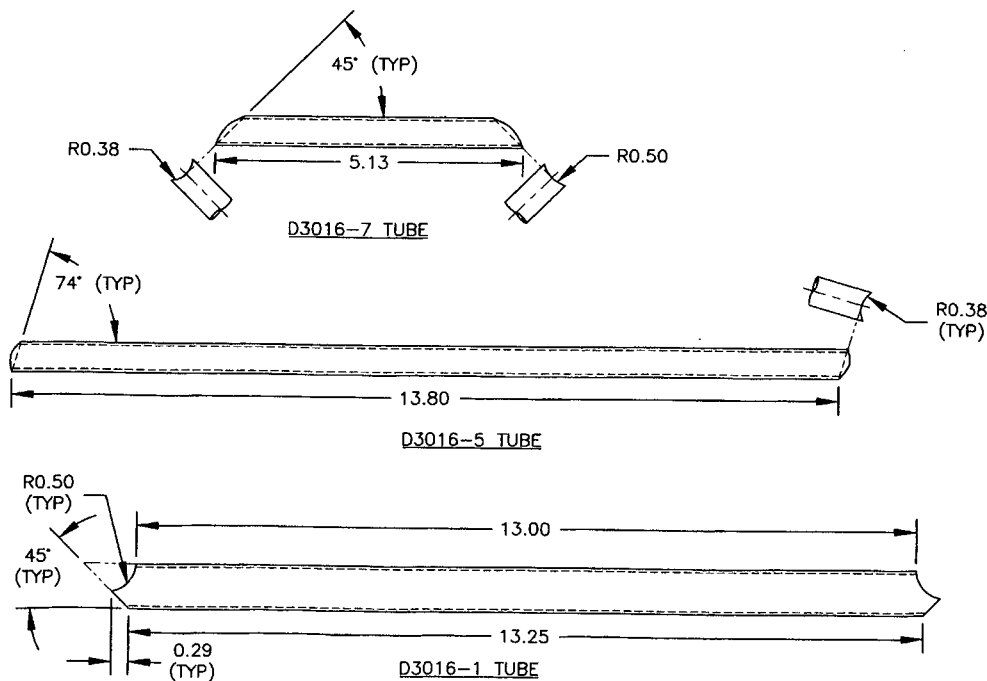
D3016-17 GUSSET



D3016-3 TUBE

D3016-9 SADDLE

D3016-11 SADDLE



D3016-7 TUBE

D3016-5 TUBE

D3016-1 TUBE

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DESIGN CP	DRAWN BY CP	DART	DART AEROSPACE LTD. HAMMERSLEY, ONTARIO, CANADA
CHECKED *	APPROVED *	DRAWING NO. D3016	REV. A SHEET 3 OF 3
DATE 01.05.18		TITLE SEAT FRAME ASSEMBLY	SCALE 1:2

DEO ATTACHED
RELEASED
9.05.30 9

DRAWING NO. D3016	TITLE SEAT FRAME ASSEMBLY	REV. A	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D3016-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>8</i>	CHECKED <i>UP</i>	MFG. APPR. <i>RE</i>	APPROVED <i>MP</i>	DE APPR. <i>MP</i>		
DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	

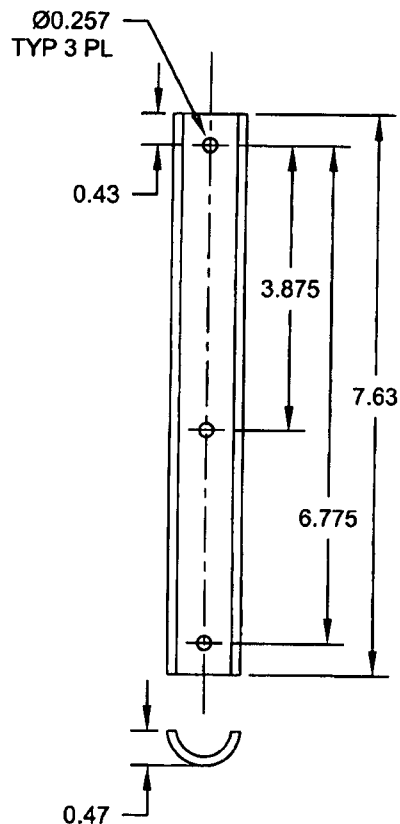
PURPOSE:

TO REVISE D3016-11 SADDLE'S HOLE SIZES

CHANGE:

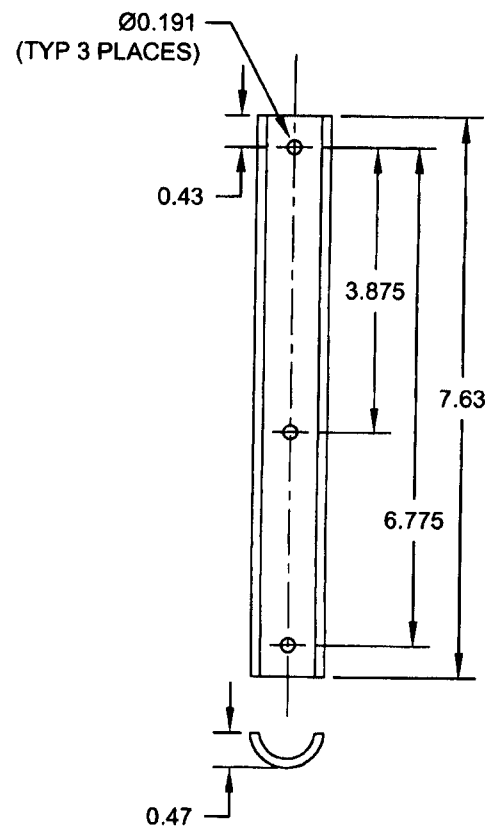
DETAIL D3016-11 SADDLE (SHEET 3): Ø0.257 TYP 3 PL WAS Ø0.191 (TYP 3 PLACES) AS SHOWN:

IS:

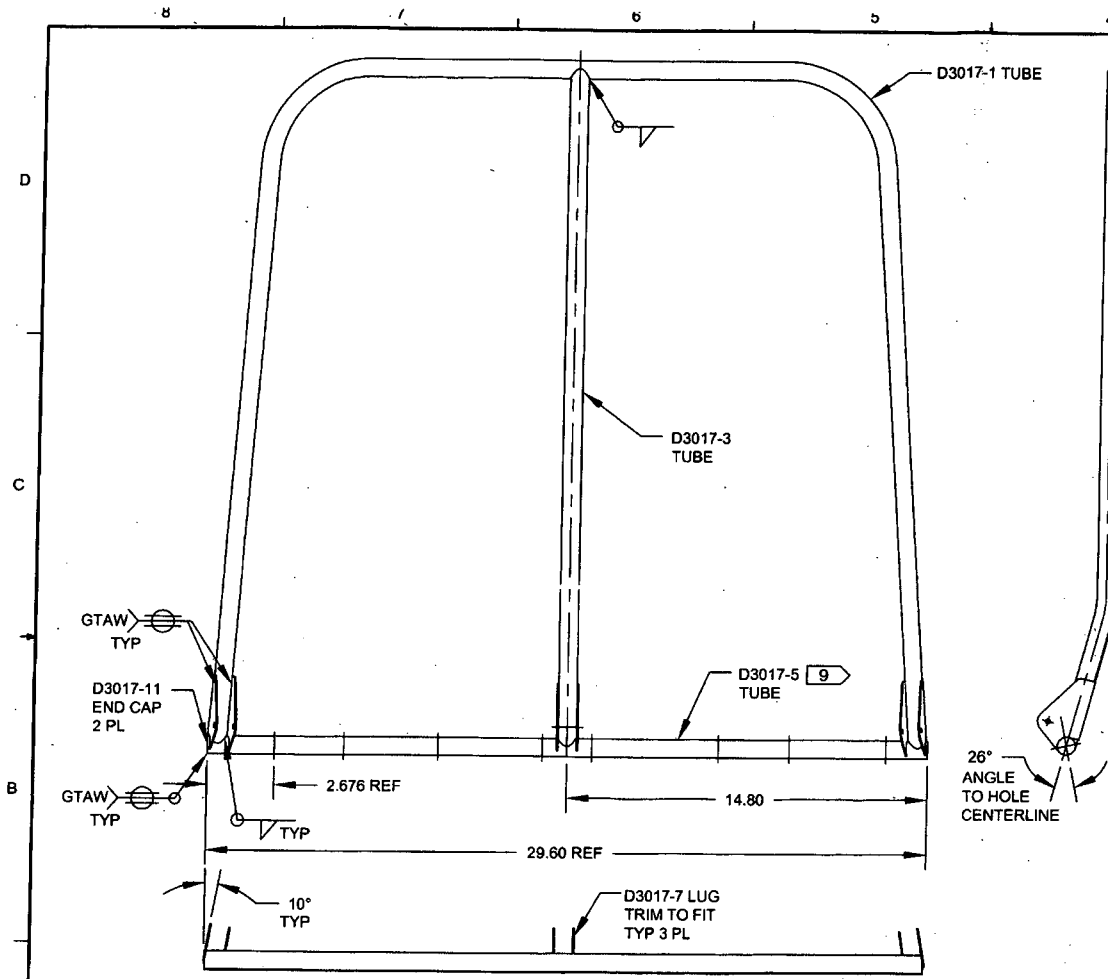


D3016-11 SADDLE

WAS:



D3016-11 SADDLE



ITEM No.	QTY	PART NUMBER	DESCRIPTION
	X	D3017-041	BACK FRAME ASSEMBLY
1	1	D3017-1	TUBE
2	1	D3017-3	TUBE
3	1	D3017-5	TUBE
4	3	D3017-7	LUG
5	2	D3017-11	END CAP

DRILL Ø0.128 HOLES TO LINE UP WITH D3023-1 BACK PANEL

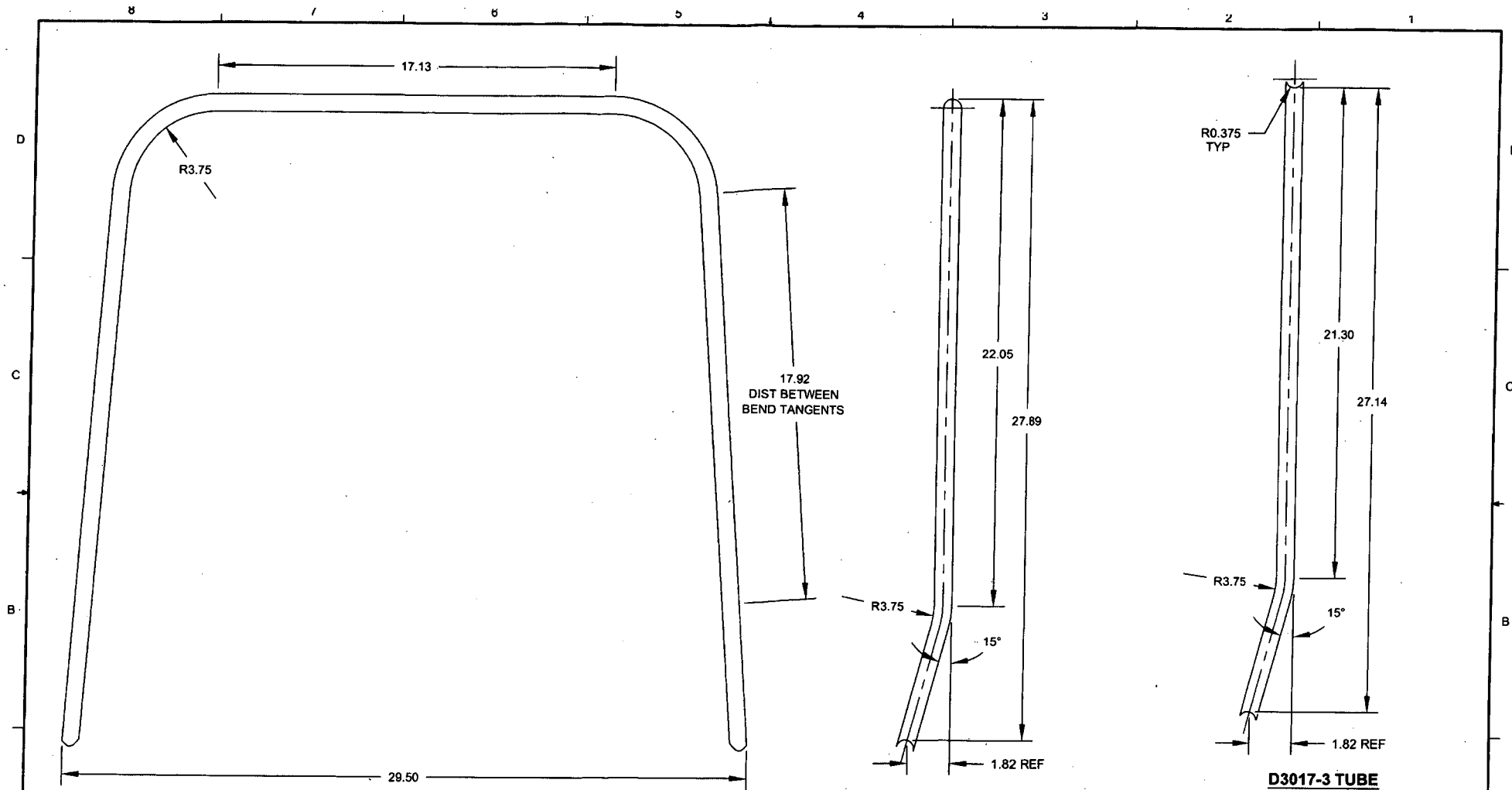
26° ANGLE TO HOLE CENTERLINE

D3017-041 BACK FRAME ASSEMBLY

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3017-041" USING FINE POINT PERMANENT INK-MARKER
 - 7) WEIGHT: 4.50 lbs
 - 8) WELD PER DART QSI 004
 - 9) ROTATE SO THAT PILOT HOLES ARE ANGLED AS SHOWN IN END VIEW.

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ECN 15-522 4P

C	FINISH REMOVED (TO BE APPLIED AT NEXT ASSY)	AJS	14.11.13
B	REFORMAT DWG. -5 TUBE WALL THKNS REVD (A8-3) SHEET 3 & 4 ADDED TO CLARIFY DRAWING. RADIUS CHANGED FROM R4.00 TO R3.75 (B4-2, B2-2). HOLE SIZE CHANGED FROM Ø0.191 TO Ø0.257 (C6-3, C3-3)	JPH	10.01.13
A	NEW ISSUE	CP	01.05.18
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.		DATE 14.11.13	
BACK FRAME ASSEMBLY		NTS	
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D3017-1 TUBE

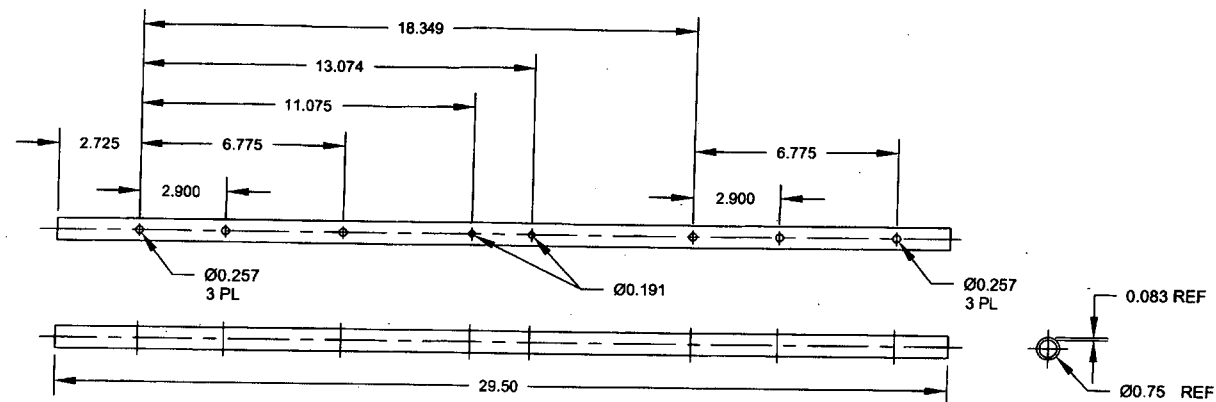
D3017-3 TUBE

NOTES:

- 1) MATERIAL: AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3017-1: 2.38 lbs; D3017-3: 0.84 lbs.

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2015 FEB 04

DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3017	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		BACK FRAME ASSEMBLY	NTS
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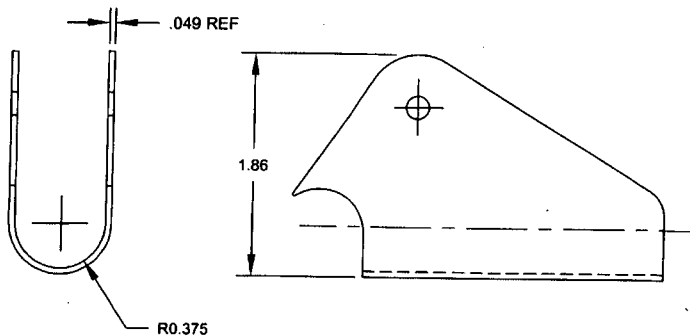


D3017-5 TUBE

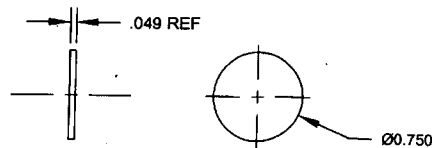
NOTES:

- 1) MATERIAL: AISI 4130N TUBE, Ø0.75 DIA x 0.083 WALL (M4130N-T0750W083)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.89 lbs

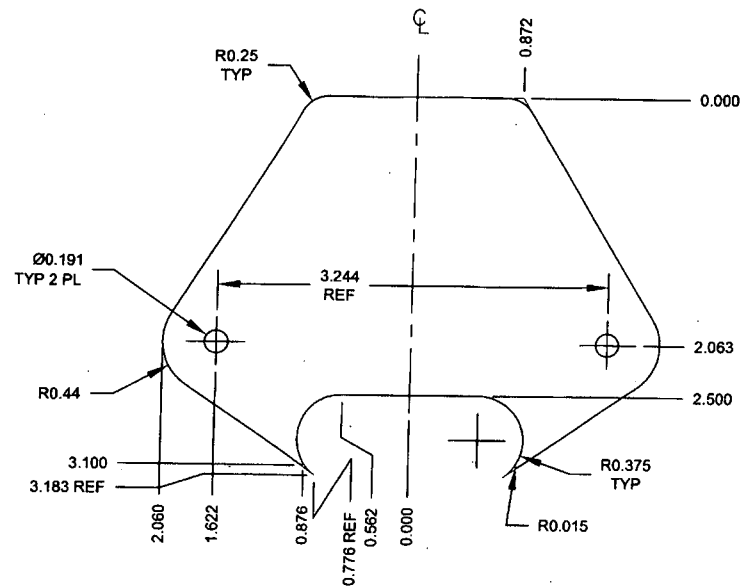
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3017	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		BACK FRAME ASSEMBLY	NTS
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D3017-7 LUG
BENDING DETAIL
MAKE FROM D3017-7F



D3017-11 END CAP



D3017-7F FLAT PATTERN
PART IS SYMMETRIC
ABOUT CENTERLINE

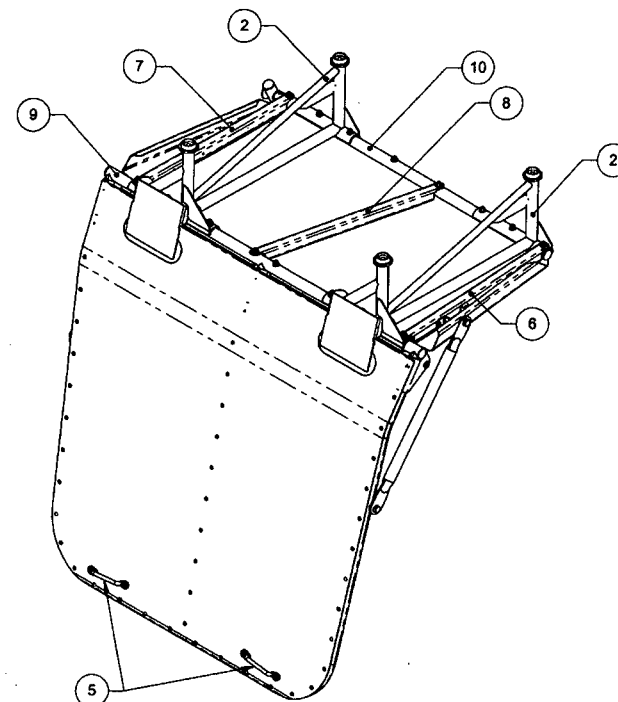
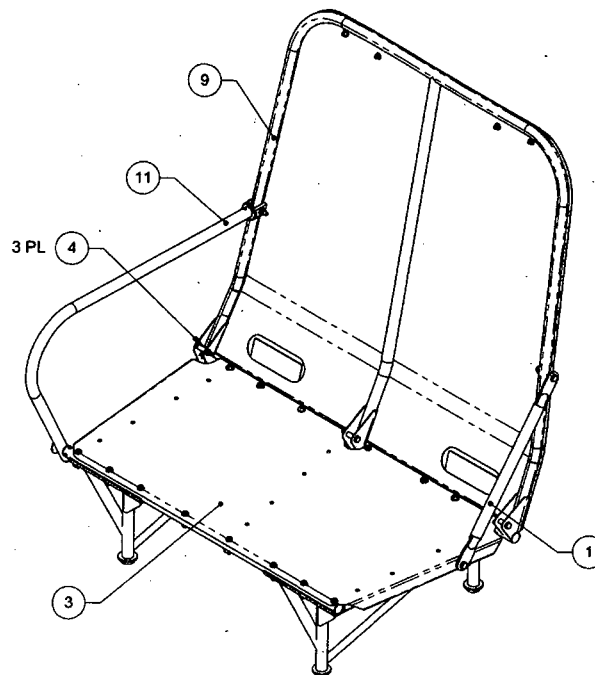
NOTES:

- 1) MATERIAL: AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: -7: 0.12 lbs; -11: 0.01 lbs.

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2015 FEB 04

DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	A.S.		
CHECKED	<i>[Signature]</i>	DRAWING NO. D3017	REV. C SHEET 4 OF 4
MFG. APPR.	<i>[Signature]</i>	TITLE BACK FRAME ASSEMBLY	SCALE NTS
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DE APPR.	<i>[Signature]</i>		
DATE	14.11.13		

ITEM	QTY	P/N	DESCRIPTION
	X	D5162-041	SEAT STRUCTURE ASSEMBLY
1	1	D2199-31	STRUT
2	2	D3016-041	SEAT FRAME ASSEMBLY
3	1	D3022-1	SEAT PAN
4	3	D3024-1	SPACER
5	2	D3031-1	LOOP
6	1	D5159-041	SEAT BACK BRACE ASSY
7	1	D5159-043	SEAT BACK BRACE ASSY
8	1	D5159-045	SEAT RIB ASSY
9	1	D5162-051	SEATBACK ASSEMBLY
10	1	D5189-041	TUBE ASSEMBLY
11	1	D5189-043	ARMREST ASSEMBLY
12	3	AN3-12A	BOLT
13	1	AN4-6A	BOLT
14	1	AN4-4A	BOLT
15	2	AN4-14A	BOLT
16	1	AN970-4	WASHER
17	4	MS20600AD4W4	RIVET, BLIND
18	8	MS20600AD4W5	RIVET, BLIND
19	17	MS21042L3	NUT, SELF-LOCKING
20	8	MS21042L4	NUT, SELF-LOCKING
21	4	MS24693-S49	SCREW, CSK 100°
22	1	MS27039-1-17	SCREW, PAN-HEAD
23	3	MS27039-1-18	SCREW, PAN-HEAD
24	4	MS27039-1-19	SCREW, PAN-HEAD
25	2	MS27039-1-20	SCREW, PAN-HEAD
26	2	MS27039-4-21	SCREW, PAN-HEAD
27	4	MS27039-4-20	SCREW, PAN-HEAD
28	17	NAS1149D0432J	WASHER
29	30	NAS1149D0332J	WASHER
30	2	NAS43DD4-16FC	SPACER



D5162-041 SEAT STRUCTURE ASSEMBLY

GENERAL NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 19.1 lbs

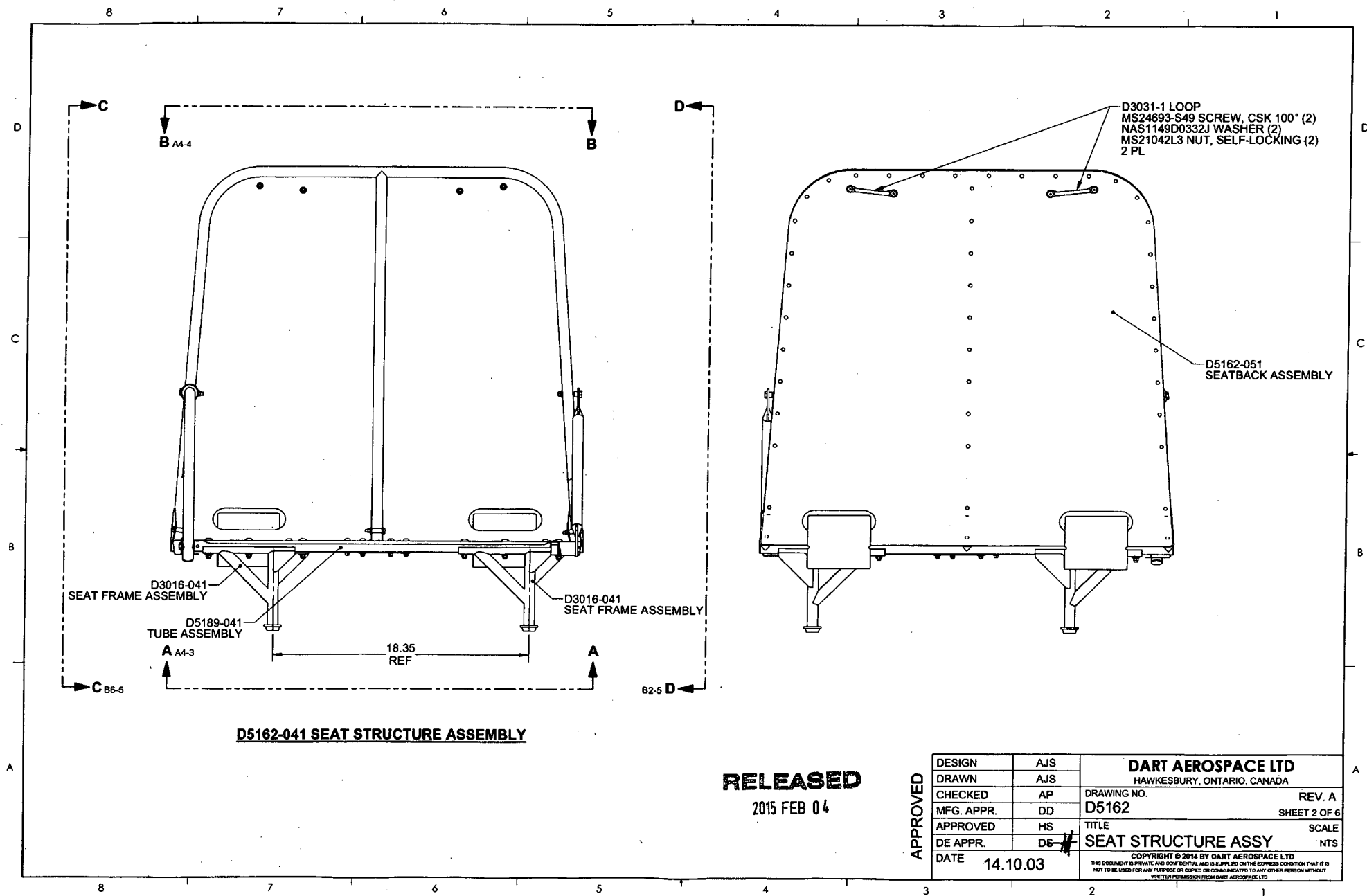
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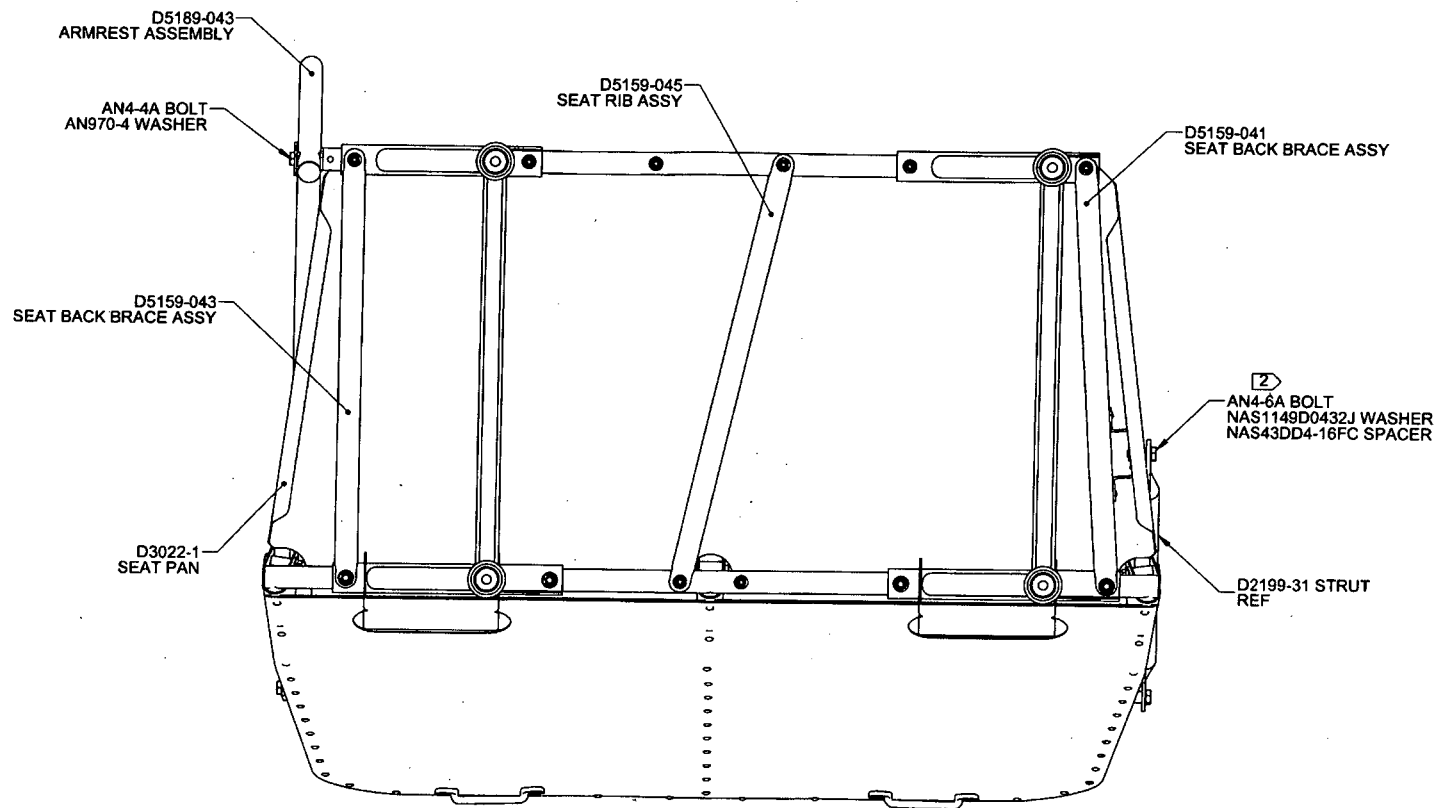
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REV.	DESCRIPTION		BY DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 1 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 2 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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VIEW A-A B8-2
(SCALE 1.5X)

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2015 FEB 04

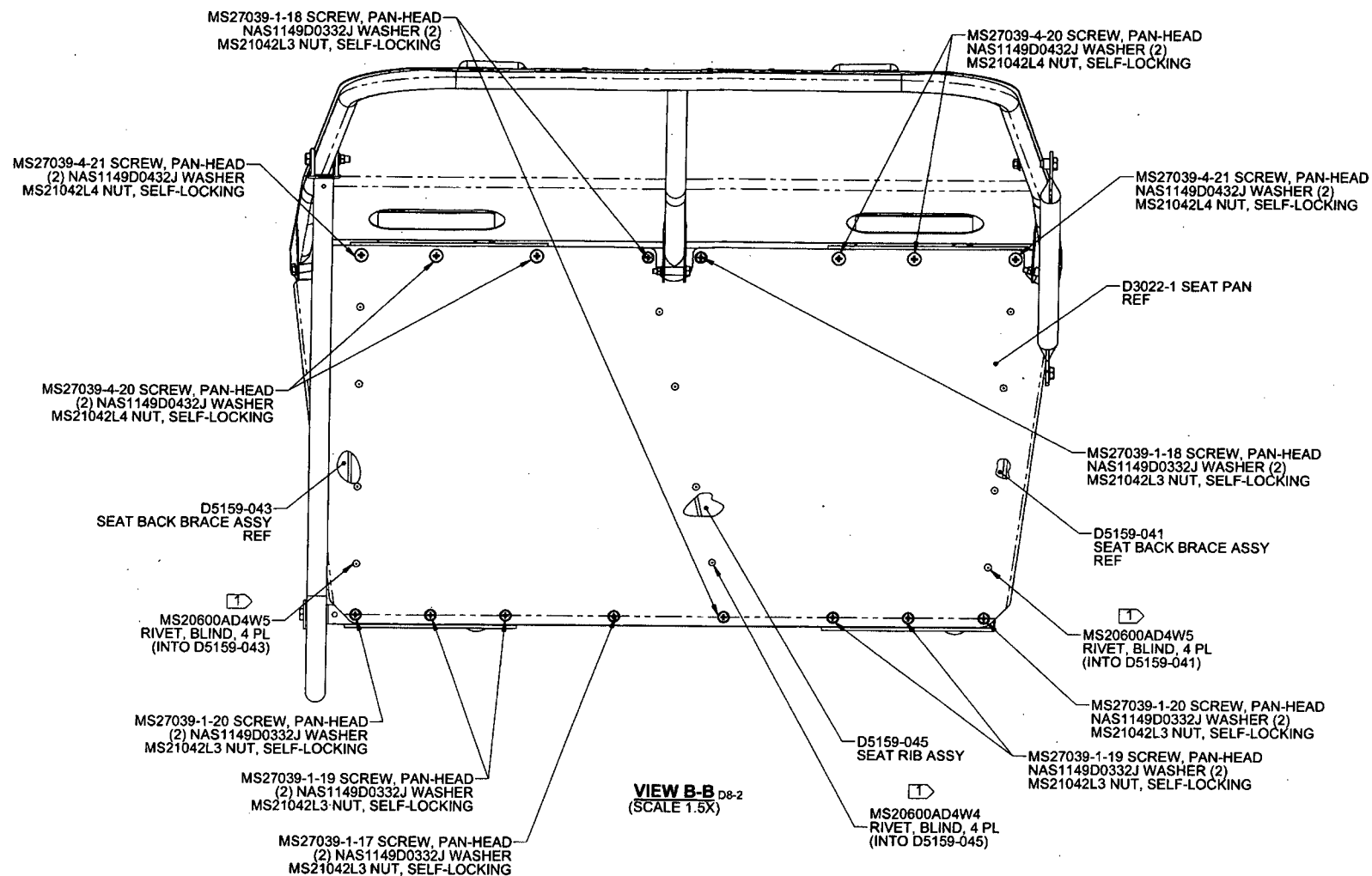
SHEET 3 NOTES:

- 1) INSTALL D2199-31 STRUT AT SEAT PAN END FIRST
- 2) TRANSFER MARK FROM D5159-041 SEAT BACK BRACE ASSY TO D3022-1 SEAT PAN AND DRILL $\varnothing 0.386$ THRU D3022-1 SEAT PAN.

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DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 3 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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8 7 6 5 4 3 2 1



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2015 FEB 04

SHEET 4 NOTES:
1) TRANSFER MARK FROM D5159-041/-043/-045 TO D3022-1 SEAT PAN
DRILL Ø0.129 THRU SEAT PAN THEN INSTALL MS20600AD4W4/5 RIVETS.

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DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO. D5162	REV. A
MFG. APPR.	DD	SHEET 4 OF 6	
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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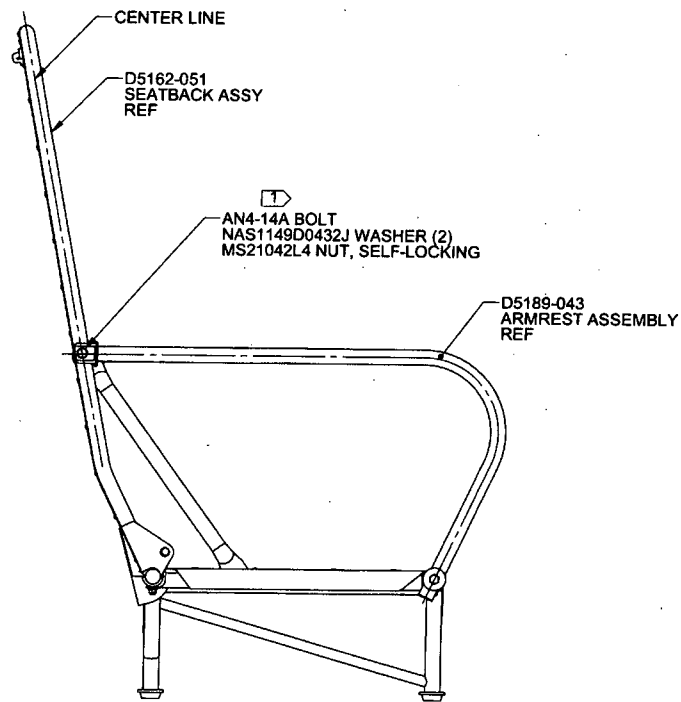
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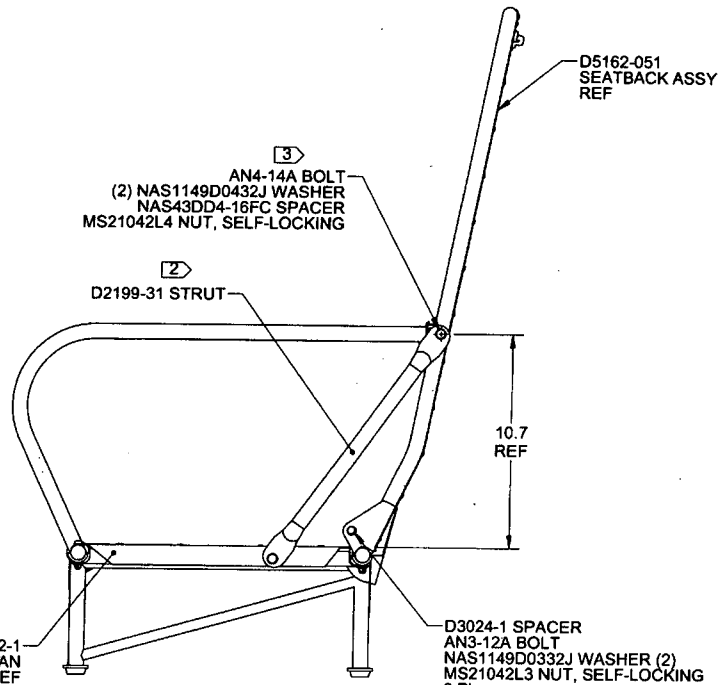
C

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VIEW C-C A8-2



VIEW D-D A5-2

SHEET 2 NOTES:

- 1) ALIGN THE PILOT HOLE ON THE D5189-043 ARMREST ASSEMBLY TO THE CENTERLINE ON THE D5162-051 BACK FRAME ASSEMBLY AND DRILL $\varnothing 0.257$ THRU THE D5189-043 AND D5162-051.
- 2) INSTALL D2199-31 STRUT AT SEAT PAN END FIRST
- 3) TRANSFER MARK FROM D2199-31 STRUT TO D5162-051 SEATBACK ASSY AND DRILL $\varnothing 0.266$ THRU D5162-051 SEATBACK ASSY

RELEASED

2015 FEB 04

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DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 5 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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C

B

ITEM	QTY -051	P/N	DESCRIPTION
	X	D5162-051	SEATBACK ASSEMBLY
1	1	D3017-041	BACK FRAME ASSEMBLY
2	1	D3023-1	BACK PANEL
3	46	MS20600AD4W2	RIVET, BLIND

D3017-041
BACK FRAME ASSEMBLY

MS20600AD4W2
RIVET, BLIND
46 PL

D3023-1
BACK PANEL

8 D5162-051 SEATBACK ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT GREY SANDEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 7.42 lbs
- 8) TRANSFER MARK FROM D3023-1 TO D3017-041.
DRILL Ø0.129 INTO THE D3017-041 (DRILL THRU ONE WALL ONLY).
THEN INSTALL MS20600AD4W2 RIVETS.

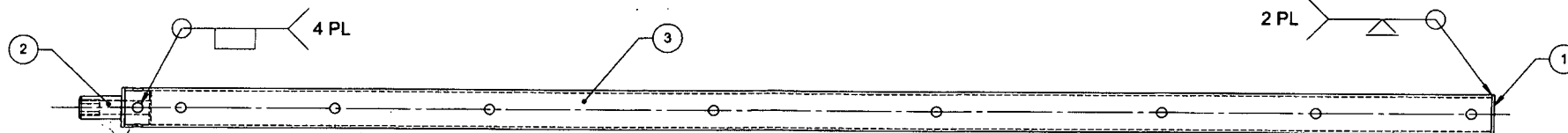
RELEASED

2015 FEB 04

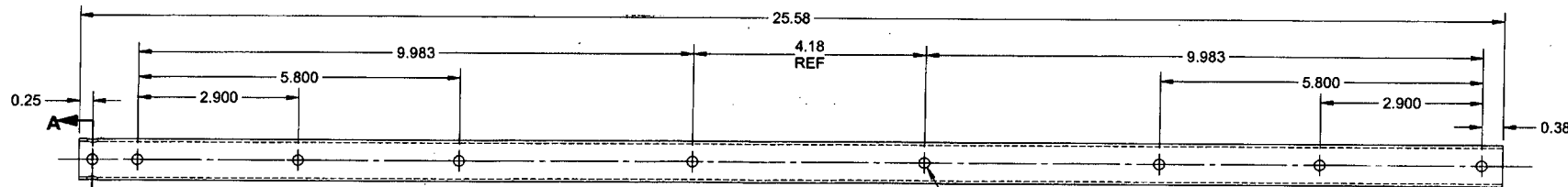
APPROVED

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 6 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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ITEM	QTY	P/N	DESCRIPTION
	X	D5189-041	TUBE ASSEMBLY
1	1	D3017-11	END CAP
2	1	D4667-041	ARMREST STUD ASSY
3	1	D5189-1	TUBE

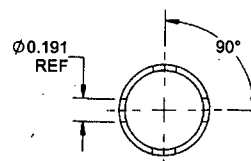


D5189-041 TUBE ASSEMBLY



D5189-1 TUBE

Ø0.191 THRU
TYP



SECTION A-A
SCALE 2X

NOTES:

- 1) MATERIAL -041: N/A
-1: AISI 4130N SEAMLESS STEEL TUBING, Ø0.750 X 0.049 WALL
PER MIL-T-6736 OR AMS 6371/6360/6361/6362/6373/6374
REF M4130NT0.750W0.049
- 2) FINISH -041: POWDER COAT GREY SANDEXT (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.85 lbs
- 8) WELD PER DART QSI 004

RELEASED

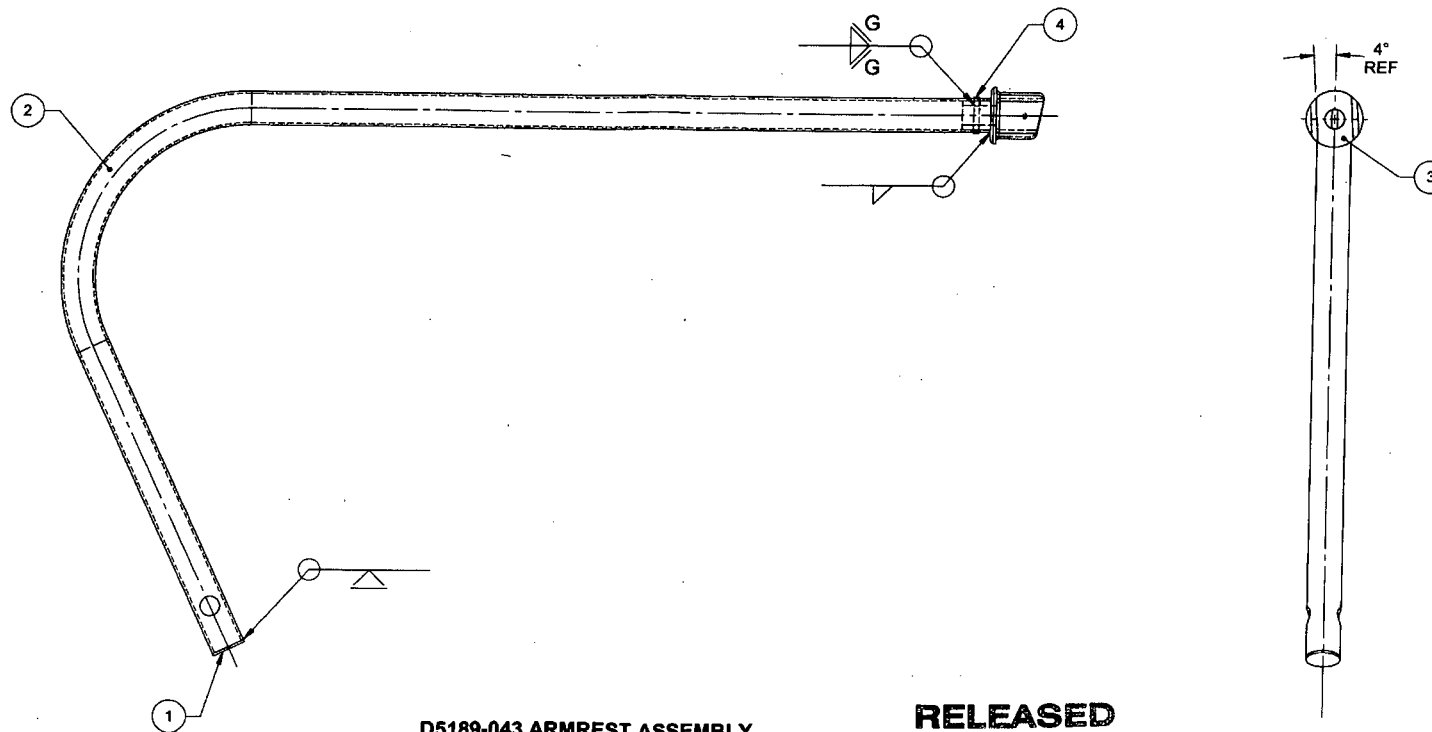
2015 FEB 04

ECN 13-522

A NEW ISSUE		AJS	14.11.18
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5189	SHEET 1 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	ARMREST COMPONENTS	NTS
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ITEM	QTY -043	P/N	DESCRIPTION
	X	D5189-043	ARMREST ASSEMBLY
1	1	D3017-11	END CAP
2	1	D5189-3	ARMREST
3	1	D5190-1	ARMREST FITTING
4	1	D5190-3	WELD PIN



D5189-043 ARMREST ASSEMBLY

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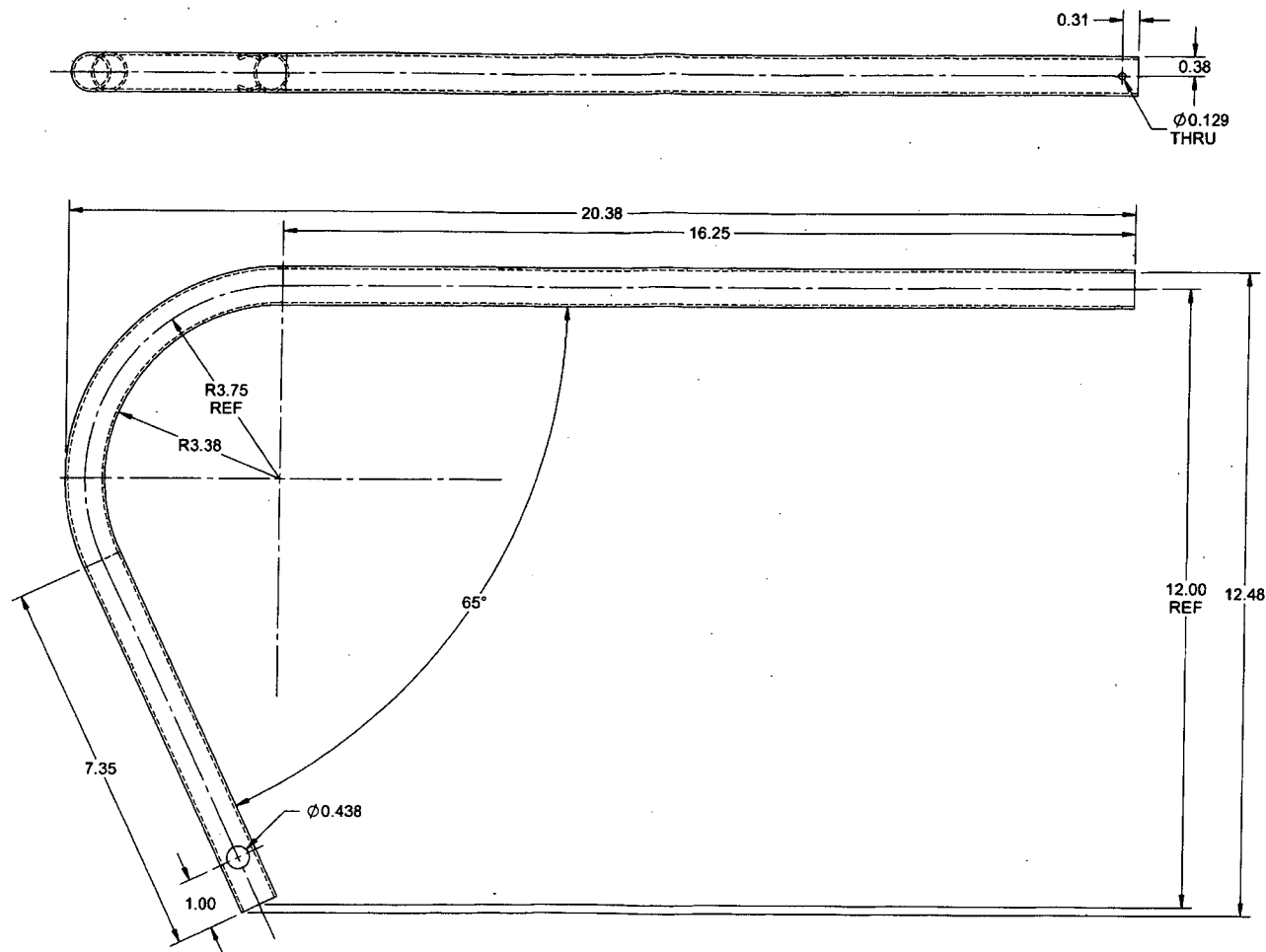
2015 FEB 04

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT GREY SANDEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.08 lbs
- 8) WELD PER DART QSI 004

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DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5189	SHEET 2 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	ARMREST COMPONENTS	NTS
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2015 FEB 04

D5189-3 ARMREST

NOTES:

- 1) MATERIAL: AISI 4130N SEAMLESS STEEL TUBING, $\phi 0.750 \times 0.049$ WALL
PER MIL-T-6736 OR AMS 6371/6360/6361/6362/6373/6374
REF M4130NT0.750W0.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.95 lbs

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DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5189	SHEET 3 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	ARMREST COMPONENTS	NTS
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